

KC-135 ups and downs may provide lifetime direction

By John Ira Petty

They're young, enthusiastic, flexible, and very bright. And you have to wonder if the experiences of high school students in the Fly High program aboard Johnson Space Center's KC-135 might have reshaped some career plans.

The students certainly seemed to have fun in the micro-gravity of the plane's cargo area during the two-week flight program in early April. Many were proud of their scientific experiments, and just about all of them were impressed with what they saw of NASA.

"It was a blast – you were kind of out of control," said Jerrell High School's Chris Barner of the flight. "I'd do it again in a heartbeat."

He and teammate Brandi Hoerman said their experiment, aimed at finding an object's center of mass, worked well. The six or seven months of work, culminating in the KC-135 flight, "was a fascinating, positive experience," she said.

Brownwood High School's Scott Benson said of the flight, "It was real neat. It was so amazing. It was awesome. It was crazy. It was a lot of fun."

He and teammate William Poulson had just come off the plane after operating an experiment looking at gyroscopic stabilization. "It was great," said Poulson. "I don't think this is going to point me in a new direction, but it was definitely an experience."

A Del Rio High School experiment focused on washing hands, which is more complicated than it sounds in microgravity. "We were testing different nozzles and spray patterns," said student Micah Langley. "The flight was awesome. It was a great opportunity and we had a lot of fun. It was a weird thing – sort of like you were falling. Once you got used to it, it was great."

Del Rio's Dasia Reyes said, "The feeling is hard to explain unless you go up there. It was indescribable – the neatest thing I've ever experienced."

They were among about 140 students, including ground crew members, and 20 teachers from around Texas who participated in 14 teams during the



NASA JSC Photo JSC2000E11065

Jerrell High School: Jill Burke (teacher), Chris Barner and Brandi Hoerman.

high school flights, part of NASA's Reduced Gravity Student Flight Opportunities Program. Ten teams had journalists flying with them.

John Bain, a KC-135 test director who flew with the students, said they had put a lot of time and effort into their research.

NASA JSC Photo JSC2000E11062
Del Rio High School: Dasia Reyes, Bruce Sauser (NASA mentor) and Micah Langley.

"They're bright kids who do well in class. Some don't know what

they're going to do," Bain said. "For many, this is the first time they're doing a science project that really leads to something."

"I think," he said, "that it does give them a lot of direction in their lives. Besides, they've been a lot of fun." ■



NASA JSC Photo JSC2000E11064
Brownwood High School: William Poulson, Scott Benson and Steve Duran (NASA mentor).

Employees invited to attend dedication of retired KC-135

With more than 58,000 parabolas to its credit, NASA 930, NASA's fourth KC-135, has been retired and is now on permanent display at Ellington Field. The aircraft will be officially dedicated at a ceremony May 15 when it becomes the property of the City of Houston.

JSC employees and contractors are invited to attend the outdoor ceremony, which begins at 10:30 a.m. at Ellington Field's main entrance. Houston Mayor Lee Brown will be in attendance with other state and city dignitaries.

Visible from Highway 3, the 104,000-pound plane is mounted on three 16-foot-deep concrete and reinforcing steel piers, positioning the aircraft in a nose-up attitude, creating the perception that it is taking off over Aerospace Boulevard.

The plane was towed from its hangar to its new location in early March. To move it to the top of the piers, engineers designed a removable gravel ramp, upon which the plane was towed. Once permanently affixed to the piers, the gravel was removed, leaving the majestic plane to greet onlookers.

In its display attitude, the aircraft will be able to withstand 125-mph winds. The FAA requirement for fixed structures at Ellington mandates that they must withstand



NASA JSC Photo JSC2000E09128 by James Blair

NASA 930, the fourth in JSC's fleet of "weightless wonders," is towed up an embankment to its permanent home at Ellington Field. The aircraft has been retired and now is positioned in "take off" position over Aerospace Boulevard.

hurricane-strength winds, but the designers incorporated a safety factor of five to protect against gusts. NASA and the City of Houston partnered in the project to memorialize the aircraft.

"The KC-135 microgravity research program has played a fundamental role in our space program," said Stuart Williams, KC-135 project engineer and lead for the project. "Microgravity research dating back to the Skylab program and the Apollo-Soyuz project has flown aboard NASA 930."

NASA 930 was the fourth in a series of five KC-135s NASA enlisted as part of its microgravity research program. It was retired in 1995 after the airframe reached the end of its economic life.

"This plane spent many years in a corrosive environment, and the elements were the principal factor in its aging," said Williams. "Later in its life, some fatigue

started to add to the maintenance effort, and the downtime necessary to keep the airframe airworthy was cutting into its mission readiness."

A fifth "Weightless Wonder" remains active in the NASA aircraft fleet and will likely continue to fly four or five more years. In the meantime, management will determine if the program will be continued with KC-135s or with another aircraft. ■